Joint Base Lewis-McChord (JBLM)		
Procedure: Identification of Environmental Aspects and Impacts Document ID: EMS-210		
Document Owner: //// ORIGINAL SIGNED ////	**Approval:** //// ORIGINAL SIGNED ////	**Revision: 4** **Revision Date:** **3 July 2013**
EMS Technical Support	**Environmental Division Chief**	**Original Date:** **11 July 2003**

PURPOSE

To provide a standard procedure for identifying the environmental aspects and associated impacts of JBLM processes, activities, and services. Implementation of this procedure will ensure that environmental aspects and impacts are identified and periodically reviewed in order to determine those which are significant. The significant aspects and impacts will be used to develop environmental objectives and revise/refocus environmental management programs and the Environmental Policy where necessary.

APPLICABILITY

This procedure applies to the personnel in JBLM organizations identified through this procedure as performing activities that have potential environmental impacts.

DEFINITIONS

Aspects Analysis Committee — A multi-organization team of individuals appointed as needed to identify the aspects and potential environmental impacts, both positive and negative. The analysis concludes with a ranking of the aspects in order of potential significance, and a determination of the JBLM significant aspects.

EMS Management Director — An individual appointed by the Joint Base Commander who, irrespective of other duties, has authority and responsibility for the operation of the JBLM Environmental Management System (EMS).

EMS Coordinator – An individual assigned by the Environmental Division Chief to organize and coordinate the JBLM effort towards maintaining conformance with EMS requirements.

EMS Management Representative — An individual appointed by a JBLM Organization Chief who, irrespective of other duties, has authority and responsibility for the operation of the organizations Environmental Management System (EMS).

Environmental Aspect — Element of JBLM activities, products, and services, which can interact with the environment. An environmental aspect signifies the potential for an environmental impact.

Environmental Impact — Any change to the environment, or to the health or safety of people, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products, or services.

Environmental Operating Permit (EOP) - A comprehensive environmental document designed to include organizations without an EMS into the JBLM EMS. It is tailored to identify organizational activities and provide information necessary for the organization to meet environmental requirements applicable to their activities.

Environmental Program Manager – An individual in JBLM Organizations appointed to manage specific environmental programs and/or plans for media protection and resource conservation including air, groundwater, surface water, soil, cultural resources, pollution prevention, etc.

JBLM Process — A recurring activity or series of activities that is performed by organizations on a continuing basis in the accomplishment of their mission. The EMS Management Director/Representatives maintain a list of these processes.

Process Analysis Committee — A multi-organization team of individuals appointed as needed to review and update the list of JBLM processes, activities and services.

Significant Environmental Aspect — An environmental aspect, which has or can have a significant environmental impact.

Significant Environmental Impact — Any potential significant change (determined by company procedure or established criteria) to the environment, wholly or partially resulting from the organization's activities, products or services.

SUPPORTING DOCUMENTS

Document ID	Title
EMS-100	Environmental Management Manual
EMS-215	Development of Environmental Objectives and Targets
EMS-220	Environmental Management Programs
EMS-230	Environmental Communications
EMS-240	Document Control
EMS-265	Environmental Records
EMS-270	Environmental Management Review
FL Reg 200-1	JBLM Regulation 200-1 (Environmental Protection and Enhancement)

NOTE: This procedure describes the recurring activities for periodically reviewing and updating the JBLM environmental aspects and impacts. For new and proposed projects, an environmental review to identify the environmental aspects and potential environmental impacts is conducted in accordance with the National Environmental Policy Act (NEPA) requirements. The NEPA review is conducted as outlined in JBLM Regulation 200-1, Environmental Protection and Enhancement.

PROCESS

Responsible		**Action**
JBLM EMS Management Director	1	Upon a significant change in mission, assess the need to conduct a full aspect analysis. If warranted, coordinate with Organization EMS Management Representatives for appointment of representatives to form a Process Analysis Committee and Aspects Analysis Committee.
	2	Review the list of processes as provided by the EMS Coordinator.
	3	Upon receipt of the updated list of processes, activities and services from the EMS Coordinator, provide the list to the Aspects Analysis Committee for analysis and determination of the JBLM significant aspects.

Responsible		Action
	4	Review the recommended list of JBLM Significant Aspects and present the list at the next scheduled JBLM EMS Management Review for approval.
	5	Communicate the approved list of JBLM significant aspects to all JBLM Organizations.
	6	Maintain the current list of JBLM significant aspects.
JBLM EMS Coordinator	1.	Annually Monitor and review JBLM processes to identify changes indicating a change in aspects. Make recommendations to the EMS Director as appropriate.
	2.	When directed, plan and conduct the Aspect Review utilizing the procedures in appendix 1.
	3.	Update Significant Aspects as appropriate.
	4	Using the review procedures in Appendix 2 and monitoring the input from EOP development, collect, review, categorize and update the list of JBLM processes, activities and services. Where pertinent, provide input on environmental aspects associated with the processes. Provide the updated list to the JBLM EMS Management Director.
Organization EMS Management Representative	1	Annually collect, identify, categorize and review processes performed by the organization. Submit to the JBLM EMS Coordinator as required.
	2	When directed, coordinate the appointment of one or more organizational representatives as members of the Aspects Analysis Committee.
	3	Ensure awareness of the significant aspects by organizational personnel performing activities associated with the significant aspects.
	4	Communicate the JBLM significant aspects to your organization.

Responsible		**Action**
Aspects Analysis Committee	1	When activated, using the Environmental Aspects and Impacts Worksheet (Appendix 1 to this Procedure) and procedures therein, for each category of JBLM Process and associated activities and services: a. Identify or verify the environmental aspects associated with the Process, activities and services. b. Gather and document quantitative and qualitative data (e.g. hazardous materials and quantities used, air emissions, locations where the Process activities and services are performed, potential for spills, legal risks associated with the Process, etc.) about each aspect identified. *Note: In developing the data, consider the influence of neighbors and tenants who affect JBLM processes/activities or use JBLM services. For example, Camp Murray, and the VA Hospital are all supported by the Wastewater Treatment Plant.* c. Identify potential environmental impacts, both positive and negative, (e.g. contamination of ground or surface water resulting from a chemical spill, impacts to species habitat, reduced material consumption due to recycling efforts, etc.) associated with each aspect identified. d. Evaluate the degree of significance of each aspect using the evaluation criteria provided on Worksheet.
	2	Tabulate a summary list of all JBLM aspects ranked according to their degree of significance.
	3	Analyzing the ranked listing of all JBLM aspects, determine the list of the significant JBLM aspects. Significant aspect is defined as an aspect that has the greatest potential to degrade or enhance the installations ability to provide a sustainable training environment.
	4	Provide the lists from Steps 1, 2, and 3, and worksheets from Step 1 to the JBLM EMS Management Director.
		End of Activity

DOCUMENT REVISION HISTORY

Original Document Issue Date: 11 July 2003		
REVISION NUMBER	**DATE OF REVISION**	**REVISION SUMMARY**
1	7 February 2005	Changed the forming of a Process Analysis Committee from an annual requirement to once every three years or as required based upon a significant change in mission. Added entries to Supporting Documents. Clarified criteria for defining a significant aspect. Described how organization significant aspects are identified.
2	22 June 2007	Updated Owner, Approval Authority and Current Copy location.
3	18 March 2011	Changed Process Approval Authority, updated to JBLM added duties for JBLM Coordinator and updated duties of Organizational Representative.
4	3 July 2013	Updated process to capture current process for review and update of Aspects and Significant Aspects. Detailed analysis is changed to as directed/needed. Inserted process review instructions in appendix 2

PROCESS:							
ACTIVITIES associated with the Process	**ENVIRONMENTAL ASPECTS of the activities** ***(The actions/causes)***	**ENVIRONMENTAL IMPACTS of the aspects** ***(The effects)***	**MEDIA impacted***	**FREQUENCY (1, 2, 3)**	**SEVERITY (0,1,2,3,4)**	**SIGNIFICANCE (Freq X Sev)**	**MEDIA MEAN SCORE**
A1 - A2 - A3 - A4 -	1- 2- 3 - 4 -	**Direct Impacts**					
		Cultural Resource Impacts					
		Loss of archeological site integrity					
		Loss of traditional cult. resources					
		Damage to historical buildings					
		Damage to historical landscapes					
	Causes of Secondary Impacts (underline one) HW generated: None Low Med High Non-HW generated: Low Med High Materials consumed: Low Med High Energy Consumed: Low Med High	**Secondary Impacts (0, 0.5 OR 1)** Loss of beneficial land use Loss of habitat from hydroelectric power plants Depletion of natural resources Air emission from incineration Air emission from fossil fuel burning					
		TOTAL SCORES FOR THE PROCESSES					

***MEDIA Impacted: A-Air Quality F-Flora/Fauna H-Human Health S-Soil W-Water Quality**

DETERMINING SIGNIFICANCE OF ENVIRONMENTAL ASPECTS

- The environmental aspects and associated impacts for each JBLM process will be determined as follows:
    - Determine the activities (sub-processes) that are part of the process.
    - Determine the environmental aspects associated with the activities (the elements of the activities that interact with and are the *causes* of effects to the environment).
    - Identify the environmental impacts (the *effects*) that result from the aspects. The same impact may result from more than one aspect.
- The significance scoring will consider direct impacts primarily, to the following media: Air, water, soil, flora/fauna and human health. Cultural resource impacts and secondary impacts will be considered and scored separately, to assist in further delineating the ranking among the aspects.
- Dust and odor are scored as impacts to air, rather than to human health.
- A significant aspect is defined as an aspect that has the greatest potential to degrade or enhance the installations ability to provide a sustainable training environment. The following criteria will be used to help identify the significant aspects:
    - ➢ Is the aspect
        - Subject to legislative or regulatory control?
        - Likely to seriously affect the capability to train?
        - Toxic to the environment?
        - Likely to cause long-term or irreversible damage to the eco-system?
        - Likely to have serious cumulative effects?
        - Capable of extending beyond the installation boundary?
        - Likely to seriously affect conditions imposed by stakeholders/relevant interested parties (e.g. memorandum of agreement)?
        - Likely to involve emergency services (fire, medical) in event of an accident?

1. DIRECT IMPACTS

a. DEFINITIONS - IMPACT PERSISTENCE

Temporary: ***An effect that will usually reverse itself, without mitigation or process changes.***

Examples:

- Most spills
- Sediment pollution from use of a ford
- Sediment pollution from improperly conducted training exercise
- Impacts from emergency generator use; smoke training; fire training; prescribed burns

Long-term: An effect that is persistent in the environment. Usually requires mitigation or a change in process to reverse.

Examples:

- Damage to wetlands from fluctuating water levels caused by stormwater changes
- Loss of stream flow from pumping the unconfined aquifer
- Algae blooms in lakes from over-fertilization of lawns on the bank
- Sediment pollution from a properly conducted training exercise
- Impact on regional air quality from the cumulative effect of many short term events, e.g. emissions from motor vehicles; impacts from stationary sources that operate all year

b. DEFINITIONS - SEVERITY

Minor: an effect that would degrade environmental values, but would not pose a threat.

(General) No loss of beneficial use

Examples for water:

- Sediment contamination under regulatory limits
- Unwanted color or smell in a stream
- Nutrient runoff from fertilizer that does not exceed regulatory limits

Examples for air:

- Emissions from woodworking; solvent tanks; landfills

Examples for soil:

- Minimal loss of vegetation
- Insignificant compaction/erosion of soil

Examples for flora/fauna:

- No direct loss of habitat or species
- No displacement of plant, animal populations
- Result in a “no effect” determination if a federally listed species involved
- Requires no conservation measures

Examples for cultural resources:

- Damage involves cultural resources not on the National Register of Historic Places
- Impacts that are reversible (when reversed, an impact of no severity would occur)

Severe: an effect that would pose a threat to human health or the environment. This would include, but not be limited to, effects that violate laws or regulations.

(General) Temporary loss of a beneficial use

Examples for water:

- Sediment concentrations that are above regulatory limits
- Chemical contamination at chronic risk concentrations
- POL spill of limited spatial extent
- A discharge to the sanitary sewer that harms the treatment process, such as a slug of chlorine or solvents

Examples for air:

- The source category is of regional concern, or
- Produces 25+ tons (all pollutants) of emissions annually and the category has 100+ individual sources, e.g. motor vehicles, gasoline storage and transfer, coating operations – aerospace and motor vehicle, boilers, generators
- Small accidents, e.g. leaking solvent tank

Examples for soil:

- Some loss of vegetation
- Some soil compaction leading to slow recovery of vegetation
- Some soil erosion leading to small areas of soil loss and run-off

Examples for flora/fauna:

- Action would degrade some habitat elements (food, water cover)
- Displacement of plant, animal populations
- Result in "not likely to adversely affect" determination if a federally listed species involved
- Implementation of conservation measures would reduce or eliminate adverse impacts of action

Examples for cultural resources:

- Damage adversely affects cultural resources listed on or eligible for listing on the National Register of Historic Places in a way that is not reversible but does not result in complete loss of the resource, or
- A complete loss of the resource occurs following a considered and documented decision by the government

Extreme: an effect that would pose an immediate danger to human health or other biota.

(General) Immediate loss of a beneficial use. Mitigation required

Examples for water:

- A POL discharge that covers a lake or wetland
- Chemical discharge at sufficient concentration to kill fish
- Action that causes a stream to go dry, such as breaking a stream seal with a backhoe

Examples for air:

- An accident/incident that will create a negative public opinion, e.g. smoke leaving the installation boundary, flammable exploding, large toxic release that poses a health issue

Examples for soil:

- Major loss of vegetation
- Significant soil compaction leading to complete loss of vegetation re-growth
- Significant soil erosion leading to large areas of soil loss and run-off with changes to topography
- Loss of soil profile

Examples for flora/fauna:

- Total loss or removal of habitat
- Mortality of individual species
- Result in "adverse effect or modification" determination if a federally listed species or habitat involved
- No conservation measures available to mitigate adverse impacts of action

Examples for cultural resources:

- Would involve a complete loss of a uniquely significant resource without a considered and documented decision by the government

c. SCORES – IMPACT SEVERITY

0 = An impact that would have an insignificant effect on the environment, even if repeated.

Examples for water:

- Impacts from wading or swimming, canoeing

Examples for air:

- Breathing

Examples for soil:

- Impact from random foot traffic, no specific pattern

Examples for flora/fauna:

- Impacts from construction in developed portions of cantonment area; dismounted training in non-sensitive areas; most non-consumptive recreation

Examples for cultural resources:

- Impact from dismounted training when ground is left undisturbed and surface artifacts and features are left intact and undisturbed (Archeological sites)
- In-kind repair and replacement of deteriorated historic fabric (Historic buildings and structures)
- Most activities in developed portions of cantonment area (Native American sacred sites and traditional cultural resources)

1 = An impact that would have a minor temporary effect and minimal potential for long-term effects.

Examples for water:

- Impact from use of floracine dye for researching the stormwater system
- Impact from improperly conducted field sanitation exercise

Examples for air:

- Diesel generators, boilers and vehicle emissions
- Dust training and construction emissions

Examples for soil:

- Impact from repeated foot traffic over a specific location – small numbers
- Impact caused by occasional wheeled vehicle traffic

Examples for flora/fauna:

- Disturbance in vicinity of habitat and species but not directly causing removal or loss of habitat
- Impacts from use of vehicles on developed roads and trails
- Impacts from recreational hunting and fishing

Examples for cultural resources:

- Impacts from vehicle use on developed roads and trails (Archeological sites)
- Broken windows or roof tiles (Historical buildings and structures)
- Military training events causing short-term limits to Native American access to sacred sites and traditional cultural resources

2 = An impact that would have a severe temporary effect or minor long-term effect.

Examples for water:

- Impact from ten gallons of diesel fuel spilled into Hamer Marsh (temporary)
- Impact from military training at fords (long-term)

Examples for air:

- Uncontrolled fire
- Improper use of paint booth

Examples for soil:

- Impact from repeated foot traffic over a specific location – large numbers
- Impact caused by occasional tracked vehicle traffic

Examples for flora/fauna:

- Disturbance to species during critical nesting period due to activities such as construction, training (temporary)

Examples for cultural resources:

- Tree-fall on historic building or structure resulting in repairable damage

3 = An impact that would have an extreme temporary effect, or a severe long-term effect.

Examples for water:

- Fish kill from release of 100 gallons of solvent into Murray Creek (temporary)
- Contamination of drinking water well from use of pesticides (long-term)

Examples for air:

- Asbestos exposure during maintenance and repair

Examples for soil:

- Persistent terrain alteration, e.g. digging of fox holes, soil berms, etc.
- Soil disturbance from persistent tracked or wheeled vehicle traffic
- Soil disturbance from constructing a new tank trail

Examples for flora/fauna:

- Loss of nest tree for bald eagle

Examples for cultural resources:

- Tree-fall on historical building or structure resulting in irreparable damage

4 = An impact that would have an extreme long-term effect.

Examples for water:

- Murray Creek goes dry every summer from MAMC pumping of the unconfined aquifer

Examples for air

- Natural gas line leak

Examples for soil:

- Major terrain alteration that eliminates vegetation over large areas, such as would occur from major, lengthy and uncontrolled use of training area with large numbers of wheeled/tracked vehicles
- Soil alteration from paving over large areas

Examples for flora/fauna:

- Irreversible habitat loss, such as would occur during a clear cut

Examples for cultural resources:

- Earth-moving activities leading to removal of archeological deposits
- Demolition of historic structures without prior consideration and documentation
- Destruction of Native American sacred site

d. SCORES - FREQUENCY *(Note: "Frequency" includes consideration of the probability of the impact occurring.)*

Infrequent (score = 1): A stand-alone event. Occurrence monthly or less. Event usually accidental.

Examples for water:

- POL or chemical spill to storm water or wetland
- Severe sediment run-off from poorly managed construction site
- Damage to stream seal by training or construction

Examples for air:

- Temperature inversion
- Prescribed fires/range fires

Examples for soil:

- Vehicles are driven within areas identified as highly erodible soils.
- Vehicles are driven over prairie habitat areas that are restricted to foot traffic, causing soil disturbance and compaction.
- Contamination of soil from fuel spill.

Examples for flora/fauna:

- Vehicles are driven off road in areas restricted to driving on established roads, causing impacts to sensitive flora and fauna.
- Vehicles are driven in streams or rivers causing direct mortality to fish and/or developing fish eggs.
- Unauthorized activity occurs within the primary protection zone of a bald eagle nest
- Wild fires caused by training events.

Examples for cultural resources:

- Off-road vehicle maneuver on archeological sites marked as off-limits (siber-staked area)
- Tree-fall resulting in damage to historic buildings or structures

Frequent (score = 2): Occurrence weekly to monthly. Usually process related.

Examples for water:

- Discharge of detergent to storm water, vehicle wash water, etc.
- Major sediment run-off from poorly managed construction site
- Discharge of POL-contaminated runoff to storm water from parking lots, etc.

Examples for air:

- Training with obscurants
- Construction dust
- Training tank trail dust

Examples for soil:

- Off road vehicle traffic causing soil disturbance and compaction.
- Digging fox holes and trenches that cause a mixing of natural soil horizons.

Examples for flora/fauna:

- Off road vehicle traffic causing damage to vegetation and disturbance to wildlife.
- Spreading seed on non-native vegetation during troop movements.

Examples for cultural resources:

- Uncoordinated maintenance and repair activities that result in adverse impacts to historic structures and landscapes

Chronic (score = 3): Events are causally linked. Occurrence is constant or nearly constant. Severity of a single event is usually low.

Examples for water:

- Discharge of chlorine to Puget Sound from the WWTP
- Discharge of nutrients and solids to Puget Sound from the WWTP
- Introduction of excess fertilizer (nutrients) to groundwater
- Pumping the unconfined aquifer

Examples for air:

- Vehicular traffic
- Heating
- Painting

Examples for soil:

- Soil compaction caused by off road troop movement.

Examples for flora/fauna:

- Off road troop movements (foot and/or vehicle) causing disturbance to vegetation and wildlife.

Examples for cultural resources:

- Limits to Native American access to sacred sites and traditional cultural resources caused by conflicts with live-fire exercises

e. SCORING - DIRECT IMPACT:

Impact Significance Score for each separate impact = Severity X Frequency.

Media Mean Score = mean score of the individual impact significance scores for the media.

2. SCORING - SECONDARY IMPACT: Significance will be scored 0, 0.5 or 1.

0 = An impact that would have a insignificant effect on the environment, even if repeated.

0.5 = An impact that would have a minor temporary effect and minimal potential for long-term effects.

1 = An impact that would have a severe temporary or extreme long-term effect.

3. SCORING – TOTAL IMPACTS OF A PROCESS = The total significance of a process will be denoted by two sums:

a. Total of the individual media scores.

b. Total of the media mean scores.

Process Review

Organization	Sub-Division	Mission/Functional Area	Associated Major Processes	Activities, Products and Services	Lewis/McChord Field/Yakima	AIR	WATER	SOIL	FAUNA	FLORA	ARCHEOLOGICAL	HISTORICAL	MATERIAL	ENERGY	HUMAN HEALTH	JBLM COMMUNITY	SURROUNDING COMMUNITY

Instructions for conducting Aspect/Process Review

1. **Format:** The headings above identify the organization, its sub-divisions, processes, activities and location along with potential environmental media areas impacted by that organizational process. Insert this heading in an excel spread sheet and populate the cells below each title with the appropriate information.
2. **Information needed.** Identify what your organization does by Division/sub-division (Include ALL divisions/sub-divisions). Be sure to include new activities picked up as a result of McChord Field operations and new missions.
3. **Rating:** For each identified process, using the table below, use your best assessment to rate the impact of that process in the impacted Environmental Media Areas. Do the same for any new activities and processes acquired. Guidance for determining a rating is in appendix 1.

Ratings for Severity	
Using the ratings below, in a worst case scenario, rate the impact on the media areas potentially affected by the described process. Additional guidance and definitions are in EMS 210.	
RATING	**Description**
0	An impact that would have an insignificant effect on the environment, even if repeated.
1	An impact that would have a minor temporary effect and minimal potential for long term effects
2	An impact that would have a severe temporary effect, or a minor long-term effect.
3	An impact that would have an extreme temporary effect, or a severe long-term effect.
4	An impact that would have an extreme long-term effect

4. **Review of previous input:** Enter Changes of content in a different color font**.** New missions or missions gone away need to be captured. Do not delete anything. For new missions, processes impacts, additions of any kind use **GREEN text. If you need to add a row Insert the row and then fill in the appropriate information with Green text.**
5. **Obvious processes and not so obvious processes.** Contracts, Contingency Plans, Support Agreements, Procurement and other operations do impact environmental media. Please capture these processes.